



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,930	09/09/2003	Valentin G. Barba	SMITHS/I8DIV	3116

1473 7590 03/04/2005

FISH & NEAVE IP GROUP  
ROPES & GRAY LLP  
1251 AVENUE OF THE AMERICAS FL C3  
NEW YORK, NY 10020-1105

EXAMINER

PALABRICA, RICARDO J

ART UNIT PAPER NUMBER

3641

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/658,930

Applicant(s)

BARBA, VALENTIN G.

Examiner

Rick Palabrica

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 4,9-11,15, and 20- 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-8,12-14 and 16-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Applicant's 1/21/05 Amendment, which directly amends claims 1, 6, 7, 12, and 16, is acknowledged.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-3, 5-8, 12-14, and 16-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1 and 12, respectively recite the step of and means for, "storing energy provided to the actuator in a mechanical storage means and an electrical energy storage means during powering of the actuator." As disclosed in the specification "powering the actuator" refers to supplying power to the actuator to place it in a locked position (see page 3 lines 9+ and page 8, lines 10+).

Art Unit: 3641

The same two claims also respectively recite the step of and means for, respectively, "powering the actuator using the energy stored in the electrical storage means to complete the unlocking stroke in the absence of power." Underlining provided.

There is neither an adequate description nor enabling disclosure as to how and in what manner "powering the actuator" provides for both locking and unlocking of the actuator.

3. Claims 1-3, 5-8, 12-14, and 16-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are vague, indefinite and incomplete. There is no support for locking and unlocking the actuator by powering the actuator. Thus, the metes and bounds of the claims cannot be determined.

Claims 1 and 12 recite the limitations "power" and "stalled current". There are insufficient antecedent bases for these limitations in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 3641

4. Claims 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Beran et al. (U.S. 5,913,763).

Applicant's claim language reads on the apparatus of Beran et al. as follows (e.g., see Figs. 1-8): a) "means for mechanical storage means" reads on return spring 91 (see col. 6, line 8); b) "electrical storage means" reads on battery module 109 (see col. 8, line 15); c) "means for powering the actuator" reads on electric motor 93 (see col. 6, line 13+); d) "means for controlling the linear velocity and stall current of the actuator" reads on controller 113 (e.g., see paragraph bridging cols. 9 and 10 ).

The claims are directed to an apparatus. However, the claims include a statement of intended or desired use, i.e., "for providing improved reliability in an aircraft door flight lock actuator." This clause, as well as other statements of intended use do not serve to patently distinguish the claimed structure over that of the reference, as long as the structure of the cited references is capable of performing the intended use. See MPEP 2111-2115.

See also MPEP 2114 that states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531.

[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525,1528.

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

The apparatus in the cited reference is capable of being used in the same manner and for the intended or desired use as the claimed invention. Note that is sufficient to show that such capability exists, as in the case of the two cited invention.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Beran et al. who disclose an apparatus and method for selective control of door movement (see Abstract and Figs. 1-19).

Beran et al. disclose a linear actuator comprising an electric motor 93 for rotating a shaft in either rotational direction, a lead screw assembly 63 for converting the shaft rotation to linear motion of a follower member 85 (and vice versa), the follower member moving in either linear direction consistent with the rotational direction of the shaft; controller 113 for selectively powering the motor in either rotational direction; a mechanical energy storage means, i.e., return spring 91, for resiliently urging the follower member to move in one, predetermined linear direction, said motor with sufficient torque to resist the resilient urging of the of the spring when the control

Art Unit: 3641

circuitry powers the motor to produce motions of the follower member opposite a predetermined linear direction; and an electrical energy storage means, i.e., battery module 109, configured to store electrical energy provided to the linear actuator to during powering of the motor to produce motion of the follower member opposite the one linear direction (see for example, col. 8, lines 19+ and col. 9, lines 35+), the control circuitry being adapted to selectively use electrical energy from the electrical storage means to power the motor to produce motion of the follower member in the predetermined linear direction.

As to claim 1, Beran et al. teach the use of his actuator for a generic door but is silent about its use for an aircraft door. He teaches, however, that his invention, including the actuator, enhances the efficiency of known door control mechanisms (see col. 3, lines 29+).

One having ordinary skill in the art would have recognized that a generic door and an aircraft door have the same function, i.e., to permit easy ingress and egress of people.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the actuator system, as disclosed by Beran et al., for an aircraft door, to gain the advantages thereof (i.e., enhanced efficiency), because such modification is no more than the use of one well-known actuator system for another application having a similar purpose.

Art Unit: 3641

6. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beran et al.

As to claim 3, it is a notoriously known fact that an electrically charged capacitor acts in the same manner as a battery because both produce direct current, and a capacitor has the advantage of being less expensive and requires less maintenance than a battery. As to the charging of the capacitor during the locking stroke and its powered stall, this is obvious because these are the times when this capacitor is available for charging. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, as disclosed by Beran et al., to replace a battery with a capacitor, to gain the advantages thereof (i.e., less expense), because such modification is no more than the use of a well-known expedient in the art, and the substitution of one electrical energy source by another well-known source.

As to claim 5, it is a notoriously known fact that safety and reliability are prime considerations in human transport industries, especially aircrafts, and having a redundancy in systems is advantageous. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, as disclosed by Beran et al., to make the mechanical storage means and the electrical storage means redundant, to gain the advantages thereof (i.e., higher reliability), because such modification is no more than the application of a well-known principles in the exercise of the art.



Art Unit: 3641

7. Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beran et al.

These claims are unpatentable over Beran et al. for the same reasons given in section 4 above as to why it is obvious to: a) replace a battery with a capacitor; and b) make the mechanical storage means and electrical storage means redundant with each other.

8. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beran et al., as applied to claims 3 and 5 above, and further in view of Moh et al. (U.S. 5,382,890). Beran et al. discloses the applicant's claims except for the specifics of control of the motor speed and subsequently the velocity of the actuator.

Moh et al. teaches an apparatus and method for controlling the speed of a brushless motor, which allows for maximum torque without damaging the motor windings (see col. 1, lines 55+). Note that the claims do not limit the motor of the claimed invention to any specific motor, and therefore the brushless motor of Moh et al. is not precluded.

Applicant's claim language reads on Moh et al. as follows (see Fig. 1): a) "sensor of rotational speed of the motor" reads on Hall sensors 24; b) "sensed first current supplied to the motor" reads on sensed voltage 30 (Note: this voltage has an inherent current associated with it); c) "current reduction if rotational speed is higher than maximum speed or it current is higher than maximum" reads on the action provided by current limiter 14; d) "shunted second current into damper circuit" reads on

Art Unit: 3641

current limit value 32 that feeds into limiter, the latter being a "damper"; e) "reduced voltage supply to motor" reads on the action of the controller 12.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, as disclosed by Beran et al., by the teaching of Moh et al., to use the latter's motor speed control method, to gain the advantages thereof (i.e., develop maximum torque without damaging the motor windings), because such modification is no more than the use of a well-known expedient in the art, and the substitution of one motor speed control method by another well-known method.

9. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beran et al., as applied to claims 14 and 16 above, and further in view of Moh et al. Beran et al. disclose the applicant's claims except for the specifics of control of the motor speed and subsequently the velocity of the actuator.

As to the teaching of Moh et al. on motor speed control and the advantage of his apparatus, see section 6 above.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus, as disclosed by Beran et al., by the teaching of Moh et al., to use the latter's motor speed control system, to gain the advantages thereof (i.e., develop maximum torque without damaging the motor windings), because such modification is no more than the use of a well-known

Art Unit: 3641

expedient in the art, and the substitution of one motor speed control method by another well-known method.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 703-306-5756. The examiner can normally be reached on 6:30-5:00, Mon-Thurs..

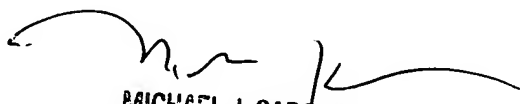
Art Unit: 3641

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Carone can be reached on 703-306-4198. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RJP  
March 1, 2005

  
MICHAEL J. CARONE  
SUPERVISORY PATENT EXAMINER